

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P313753

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-RDP-CP125-W2A-U-4500K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P313753
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-70HE-UNV-L83050-RDP-CP125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.125" POLYCARB SHEET
Light Source: (336) 4500K TUNABLE CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4490.0 lumens
Efficiency: N/A
Efficacy: 74.2 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

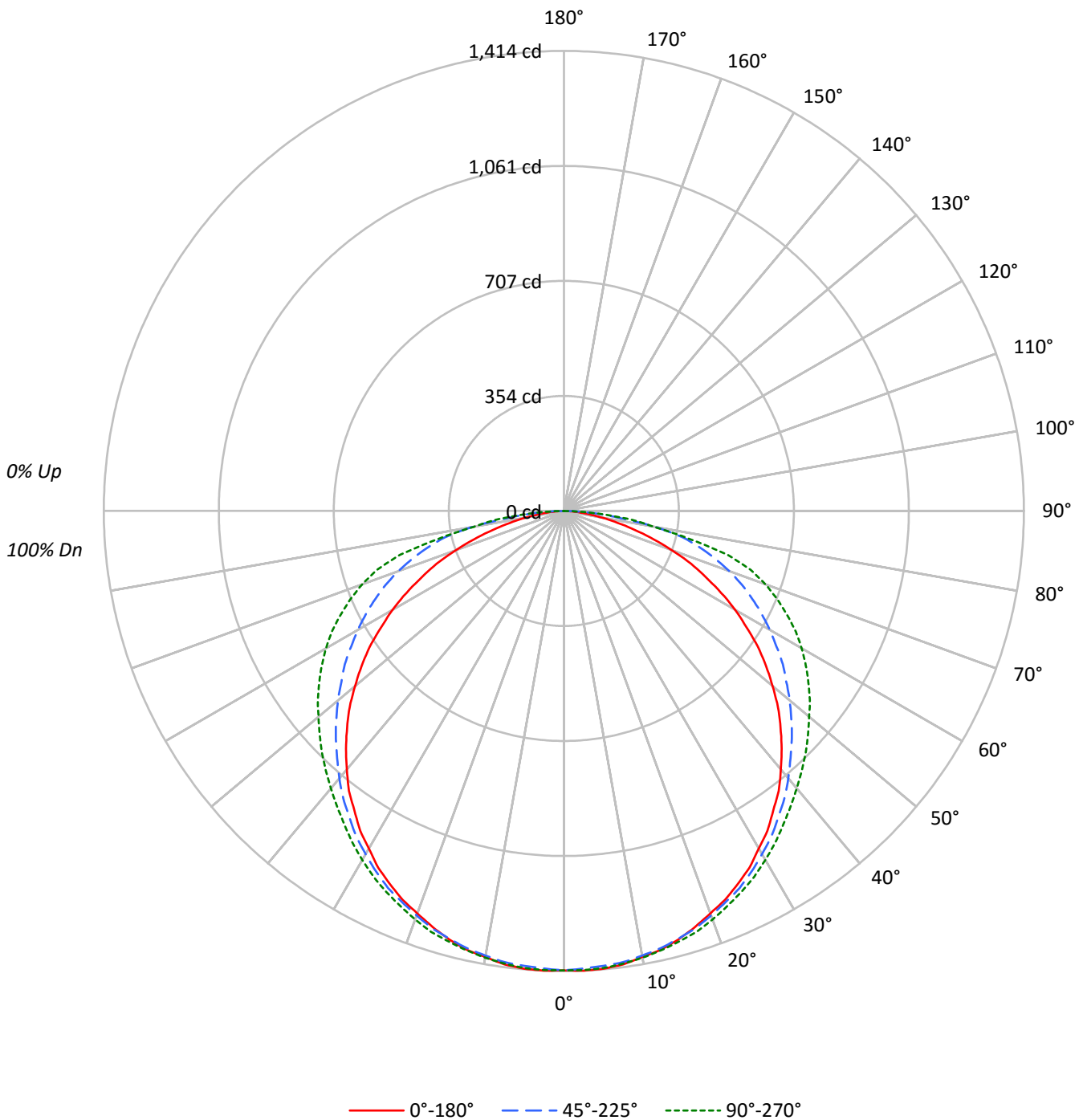
Input Watts (W): 60.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1900	1900	1900
5°	1907	1895	1904
10°	1902	1896	1905
15°	1899	1896	1908
20°	1885	1894	1913
25°	1878	1898	1918
30°	1862	1893	1924
35°	1844	1888	1931
40°	1823	1886	1956
45°	1793	1886	2000
50°	1753	1897	2061
55°	1708	1928	2152
60°	1636	1966	2271
65°	1532	2035	2411
70°	1393	2129	2593
75°	1181	2246	2709
80°	932	2260	2191
85°	687	1720	1925



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.9	3.0
10°-20°	385.5	8.6
20°-30°	589.5	13.1
30°-40°	720.6	16.0
40°-50°	768.0	17.1
50°-60°	734.3	16.4
60°-70°	622.1	13.9
70°-80°	418.1	9.3
80°-90°	117.9	2.6
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1108.9	24.7
0°-40°	1829.5	40.7
0°-60°	3331.9	74.2
0°-90°	4490.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4490.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1412	1412	1412	1412	1412	
5°	1412	1410	1403	1410	1410	134
15°	1363	1363	1361	1372	1370	384
25°	1265	1269	1278	1290	1292	583
35°	1122	1131	1149	1172	1176	703
45°	942	958	991	1033	1051	727
55°	728	755	822	886	918	649
65°	481	530	639	724	757	478
75°	227	310	432	506	521	243
85°	44	91	111	120	125	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1412.0	1412.0	1412.0	1412.0	1412.0
2.5°	1414.2	1414.2	1407.5	1412.0	1412.0
5°	1412.0	1409.7	1403.1	1409.7	1409.7
7.5°	1405.3	1403.1	1398.6	1405.3	1403.1
10°	1391.9	1391.9	1387.5	1394.2	1394.2
12.5°	1380.8	1378.6	1376.3	1385.3	1383.0
15°	1363.0	1363.0	1360.8	1371.9	1369.7
17.5°	1340.7	1342.9	1345.2	1354.1	1356.3
20°	1316.2	1320.7	1322.9	1336.3	1336.3
22.5°	1293.9	1296.2	1300.6	1314.0	1314.0
25°	1265.0	1269.4	1278.4	1289.5	1291.7
27.5°	1236.0	1238.3	1249.4	1265.0	1267.2
30°	1198.2	1204.9	1218.2	1236.0	1238.3
32.5°	1164.8	1171.5	1187.0	1204.9	1209.3
35°	1122.5	1131.4	1149.2	1171.5	1175.9
37.5°	1084.6	1091.3	1113.5	1138.0	1144.7
40°	1037.8	1051.2	1073.5	1102.4	1113.5
42.5°	991.1	1004.4	1031.1	1069.0	1082.4
45°	942.1	957.6	991.1	1033.4	1051.2
47.5°	893.1	910.9	948.7	997.7	1017.8
50°	837.4	859.7	906.4	962.1	984.4
52.5°	783.9	810.7	861.9	924.2	953.2
55°	728.3	755.0	821.8	886.4	917.6
57.5°	665.9	701.5	775.0	848.5	881.9
60°	608.0	641.4	730.5	810.7	844.1
62.5°	545.6	590.2	685.9	770.6	804.0
65°	481.1	530.0	639.2	723.8	757.2
67.5°	423.1	476.6	592.4	677.0	710.4
70°	354.1	420.9	541.2	625.8	659.2
72.5°	289.5	363.0	487.7	570.1	601.3
75°	227.2	309.6	432.1	505.6	521.1
77.5°	169.3	256.1	374.2	405.3	394.2
80°	120.3	204.9	291.7	276.2	282.8
82.5°	77.9	155.9	180.4	204.9	211.6
85°	44.5	91.3	111.4	120.3	124.7
87.5°	20.0	33.4	44.5	44.5	42.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)